

PAPER : MCA36 Operating System

Examination Scheme					
Internal		External		Total	
Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
30		70		100	

UNIT I (25%)

Operating System Overview & Process Management : Introduction to Operating System, Types of Operating system, Operating Services, Process, Process Control Block (PCB), Process States, Scheduling – Types of Schedules, Scheduling & Performance Criteria, Scheduling Algorithms – FCFS, SJF, Priority, Round Robin (RR) Scheduling. Interprocess Synchronization : Mutual exclusion, Semaphore, Classical Problems in Synchronization, Intraprocess Synchronization : Critical Region, Deadlocks Process Management in Windows NT / UNIX

UNIT II (25%)

Memory Management : Static Memory Allocation, Dynamic Memory Allocation, Segmentation, Virtual memory – Demand Paging , Page Replacement, Fragmentation & Defragmentation, Cache memory Memory Management in Windows NT / UNIX

UNIT III (25%)

I/O Management : Program Controlled I/O, Interrupt Driven I/O, USART, PIT File Management : File concept, Access method, Directory structure, Disk Space Management - Contingency allocation, Non contingency allocation, File related system services I/O Management & File Management in Windows NT / UNIX

UNIT IV (25%)

Shell Programming & Case Studies : Features of Unix, Types of shell, Unix commands Unix file system, Editors of Unix shell programming (Vi / PICO), Shell programming, Case studies : Unix, Windows NT.

BOOKS:-

1. Silberschatz & Galvin : Operating System Concept, Wiley, Fifth Edition
2. Milan Milenkovi'c : Operating Systems, Tata McGraw – Hill, Second Edition.
3. William Stallings : Operating Systems, PHI, Fourth Edition
4. Yashavant Kanetkar : Unix Shell Programming, BPB.

Question Paper Scheme:**Section – I**

- Q.1 - Objective Type Unit I & II
Q.2 - Unit-I OR Q.2 Unit-I
Q.3 - Unit-II OR Q.3 Unit-II

(11) Marks
(12) Marks
(12) Marks

Section – II

- Q.4 - Objective Type Unit III & IV
Q.5 - Unit-III OR Q.5 Unit-III
Q.6 - Unit-IV OR Q.6 Unit-IV

(11) Marks
(12) Marks
(12) Marks